Description of a new species of *Automeris* Hübner, [1819] from Northeastern Brazil and notes about *Automeris castrensis* Schaus, 1898 from Southern Brazil (Lepidoptera: Saturniidae, Hemileucinae, Hemileucini)

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Abstract: *Automeris* ***jolantheae*** **n. sp.,** from Northeastern Brazil, is described and compared to its similar species *Automeris granulosa* Conte, 1906 from Brazil and *Automeris lecourti* Decaëns & Herbin, 2002 from Bolivia, differing mainly by the ground colour and male genitalia. The male holotype is deposited in the collection Padre Jesus S. Moure, Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Paraná, Brazil. The female of *Automeris castrensis* Schaus, 1898 is figured for the first time and the geographical distribution of this species is updated.

Key words: Distribution, taxonomy.

Descrição de uma espécie nova de *Automeris* Hübner, [1819] do nordeste brasileiro e notas sobre *Automeris castrensis* Schaus, 1898 do sul do Brasil (Lepidoptera: Saturniidae, Hemileucinae, Hemileucini)

Resumo: *Automeris* ***jolantheae*** **sp. n.,** do nordeste brasileiro, é descrita e comparada com as espécies similares *Automeris granulosa* Conte, 1906 do Brasil e *Automeris lecourti* Decaëns & Herbin, 2002 da Bolívia, deferindo principalmente pela coloração das asas e pela genitália masculina. O holótipo macho está depositado na coleção Padre Jesus S. Moure, Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Paraná, Brasil. A fêmea de *Automeris castrensis* Schaus, 1898 é figurada pela primeira vez e a sua distribuição geográfica é atualizada.

Eine neue Art der Gattung *Automeris* Hübner, [1819] und Anmerkungen zu *Automeris castrensis* Schaus, 1898 von Brasilien (Lepidoptera: Saturniidae, Hemileucinae, Hemileucini)

Zusammenfassung: Die neue Art *Automeris* ***jolantheae*** **n. sp.** aus Nordostbrasilien wird beschrieben und mit den ähnlichen Arten *Automeris granulosa* Conte, 1906 aus Brasilien und *Automeris lecourti* Decaëns & Herbin, 2002 aus Bolivien verglichen, von denen sie sich in erster Linie in der Grundfarbe und dem männlichen Genitalapparat unterscheidet. Der männliche Holotypus befindet sich in der Sammlung von Padre Jesus S. Moure im Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Paraná, Brasilien. Das Weibchen von *Automeris castrensis* Schaus, 1898 wird zum ersten Mal abgebildet, und die Verbreitungsangaben der Art werden aktualisiert.

Introduction

According to Lemaire (2002), *Automeris* Hübner, [1819] can be divided into nine groups plus 12 unassigned species, totalizing 135 species, although this species number increased significantly in the recent years, due to new discoveries. The new species here described, according to the same author, belongs to the species-group of *A. cecrops* (Boisduval, 1875) and to the subgroup of *A. oberthurii* (Boisduval, 1875), which is composed of the following species:

- *A. granulosa* Conte, 1906
- *A. lecourti* Decaëns & Herbin, 2002
- *A. castrensis* Schaus, 1898
- *A. oberthurii* (Boisduval, 1875)

The present article raises to five the number of species included in *A. oberthurii* subgroup.

Further, the ♀ of *A. castrensis*, although already described in the literature (Bouvier 1936, Lemaire 2002), was never actually figured, so it is done here.

Collection abbreviations (all in Brazil)

CEF Col. Eurides Furtado, Diamantino, Mato Grosso.

CGCM Col. Carlos G. C. Mielke, Curitiba, Paraná.

COM Col. Olaf H. H. Mielke, Curitiba, Paraná.

DZUP Col. Pe. Jesus S. Moure, Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Paraná.

Following Kristensen (2003: 103), the "aedeagus" is termed "phallus" in this publication.

Automeris jolantheae n. sp.

Figs. 1a, 1b, 2, 3

Holotype ♂: "Holotypus, *Automeris jolantheae* C. Mielke & G. Almeida det. 2007", "10. v. 1945, Maceió, Alagoas, A. Cardoso leg.", "DZ 8.649", "Ex. coleção A. Cardoso". Deposited in DZUP. — Figs. 1a, 1b.

Paratypes (in total 5 ♂♂; all **Brazil**): **Pernambuco**: 2 ♂♂ (CGCM 15.058, 15.498), Custódia, 25. vi. 1974, V. O. Becker leg. — **Alagoas**: 2 ♂♂ (DZUP 8.681, 9.074), Palmeira dos Índios, 3. iii. 1976, A. Cardoso leg., ex. col. A. Cardoso; 1 ♂ (DZUP 8.689), Quebrangulo, 22. ix. 1990, ex. col. A. Cardoso.

Etymology. The name is dedicated to Jolanthe Brockmann (Lich, Germany), wife of Ernst Brockmann (Hesperiidae specialist), for her enthusiasm on entomology.

Diagnosis

♂ (Figs. 1a, 1b): Wingspan 54 mm, forewing length 27 mm (paratypes: 26–28 mm). Antennae (ca. 35 segments): rami dark yellow. Frons yellow, labial palpi darker than frons. Thorax dorsally deep yellow, ventrally lighter. Legs light yellow; tibia spurs 0-2-3. The foretibia bears an epiphysis of ¾ of its length. Forewing elongated, apex not pronounced, outer margin convex; dorsally ground colour deep yellow, basal area little darker; ante and postmedial lines gray, the former undulated, posteriorly being almost parallel to the latter, this (preapical: 5 mm)

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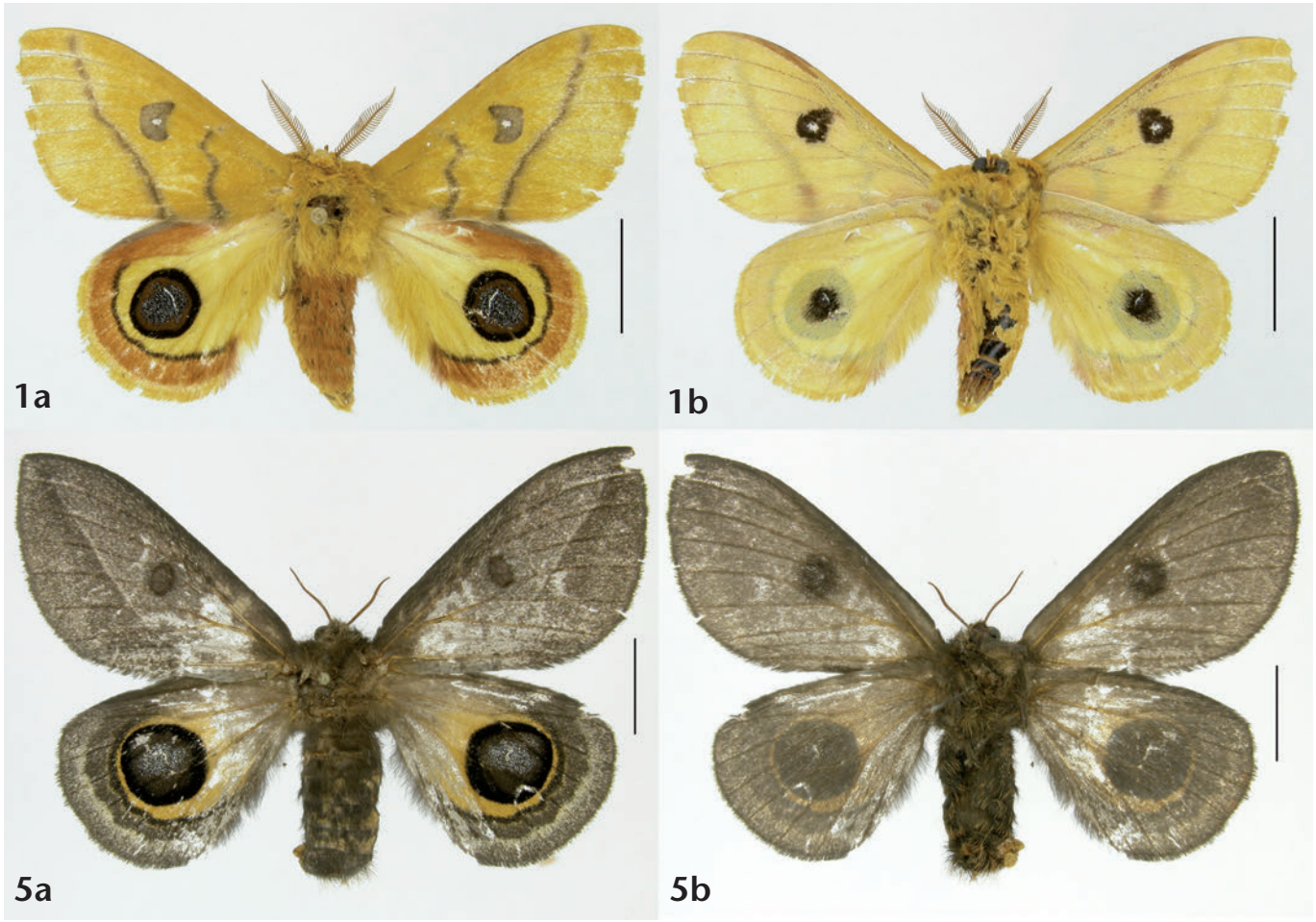

Colour plate: Fig. 1: *Automeris jolantheae* n. sp., holotype ♂, dorsal (a), ventral (b). — **Fig. 5:** *Automeris castrensis*, ♀, dorsal (a), ventral (b). — Scales 1 cm.

straight from apex to M_2, then bent into a concave line; discal spot gray with a white dot; ventrally entirely pale yellow, postmedial line not well marked, anterior and posterior discal spot black with a white dot, the former larger. Hindwing with a yellow periocellar area; eyespot with black periocellar ring, iris dark brown, pupil large and almost black suffused with white scales; postmedial line black, submarginal and subcostal areas reddish brown and marginal band yellow, costal band thin and gray. Abdomen dorsally reddish brown (according to the submarginal band on HW), ventrally pale yellow. Genitalia (Figs. 2, 3) typical of *A. oberthurii* subgroup; but when comparing to those of *A. granulosa* (Fig. 4): apparatus smaller; uncus narrower, well sclerotized, apically pointed and downcurved; rectangular median plate of gnathos narrower and longer; valves narrow with a long spine posteriorly, distally less falcate, costa with a posterior process more projected; juxta bilobed, much less concave; saccus a slender arm projected anteriorly; phallus (Fig. 3) bears a vesica which lacks the cornutus, and bulbus ejaculatorius with 9 mm length, about 4 times (5½–7 times in *A. granulosa*, and 10 times in *A. lecourti*) of the length of the sclerotised tube of the phallus; phallus tube simple and smaller.

♀ unknown.

Immature stages: Unknown.

Discussion

Automeris jolantheae n. sp. resembles *A. granulosa* and *A. lecourti*, but it mainly differs from the two latter by the yellow ground colour of the wings (dorsal and ventral), the anterior ventral discal spot larger than the posterior one, and the genitalia structures: valve less falcate, posterior process of the costa more projected, median plate of gnathos narrower and longer, and shorter bulbus ejaculatorius (9–10 mm). Although Decaëns & Herbin (2002) and Lemaire (1973, 2002) mentioned the bulbus ejaculatorius to be 4½ times as long as the phallus tube in *A. granulosa* (the former following the latter author), in all examined specimens (see list of material below), the bulbus with 14–17 mm of length is actually from 5½ to almost 7 times as long as the phallus tube.

> **Material** of *Automeris granulosa* examined for comparison (in total 3 ♂♂; all **Brazil**): **Maranhão:** 1 ♂ (CGCM 11.500), Balsas, Serra do Penitente, 500 m, 20. x. 2001, C. Mielke leg. – **Bahia:** 1 ♂ (DZUP 8.753), Caetité, 13 km SE Maniaçú, 850 m, 8.–11. xii. 1994, [O.] Mielke & Casagrande leg. (genitalia figured in Fig. 4). — **Mato Grosso:** 1 ♂ (CGCM 903), Diamantino, Alto Rio Arinos, 20. xii. 1994, Furtado leg.

Lemaire (1973, 2002) mentioned some yellow ground colour specimens from Alagoas state, coexisting with *A. granulosa*. These specimens could be attributed to the new species, but no specimen was found in his collec-

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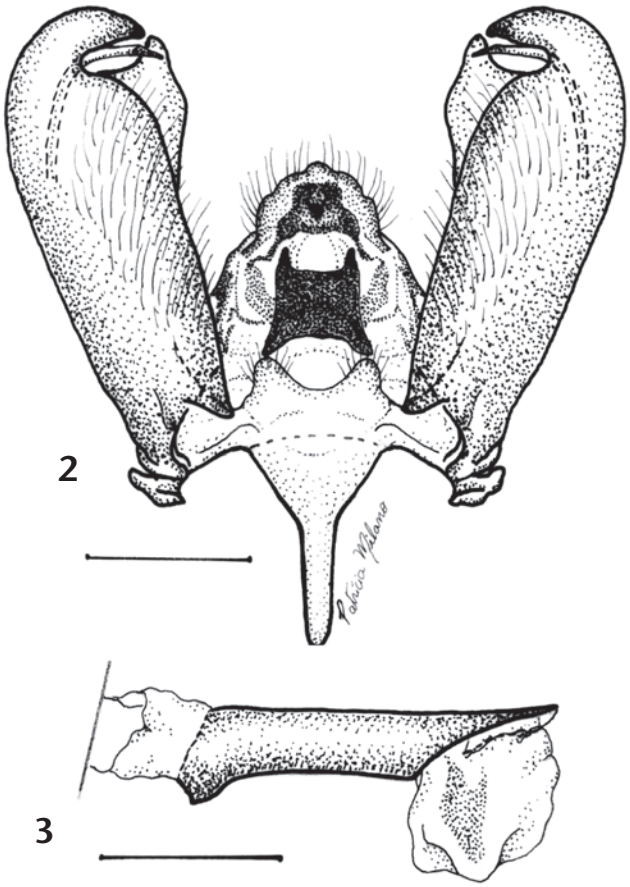

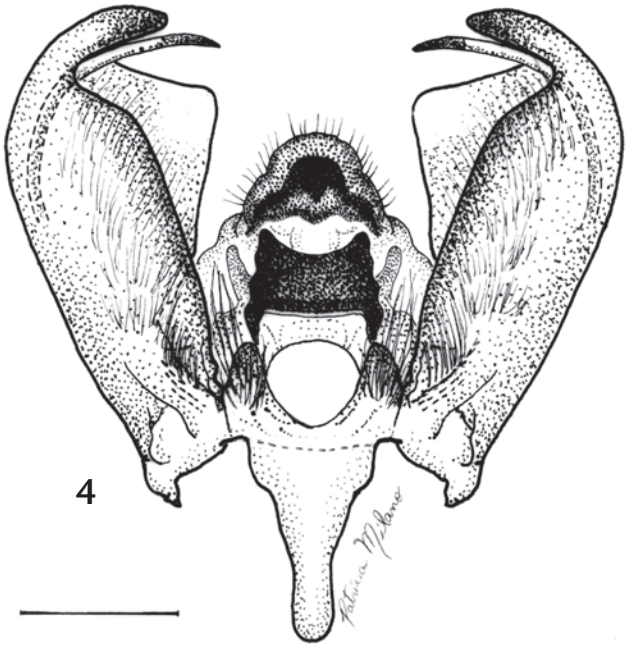

Figs. 2–3: *Automeris jolantheae* n. sp., ♂ genitalia (holotype), ventral view (**2**), phallus lateral view (**3**). — **Fig. 4:** *Automeris granulosa,* ♂ genitalia, ventral view. – Scales 1 mm.

tion or even in the Museum National d'Histoire Naturelle, Paris.

Geographical distribution

Automeris jolantheae n. sp. is only known from northeastern Brazil, most of the records from very dry areas where caatinga (xeric shrub land and thorn forest) vegetation is predominant (Fig. 6).

Ethology: Unknown.

The ♀ of *Automeris castrensis*

Automeris castrensis Schaus, 1898

Figs. 5a, 5b

Material examined (in total 12 ♂♂, 1 ♀; all **Brazil**): **Paraná**: 5 ♂♂ (CEF 11.096; CGCM 002, 567, 640, 1.030), Tibagi, Fortuna, 800 m, 2. II. 1999, 5. II. 1998, 23. VIII. 2000, 15. I. 2002, C. Mielke leg.; 1 ♂ (DZ 9.713), Tibagi, I. 1948, ex coll. F. Justus jr.; 1 ♂ (COM 40.333), Castro, Castrolanda, 12. VIII. 1994, C. Mielke leg.; 2 ♂♂ (DZ 9.705, 10.446), Ponta Grossa, VII. 1948, F. Justus jr. leg., ex. col. F. Justus jr., ex col. D'Almeida; 1 ♂ (CGCM 19.635), Witmarsum, 5. II. 2006, C. Mielke leg.; 1 ♂ (DZ 10.386), Curitiba, XI. 1941, Pe. Moure leg, ex col. D'Almeida; 1 ♀ (CGCM 19.460), Tibagi, Estiva, 30. I. 2006, C. Mielke leg. — **Santa Catarina**: 1 ♂ (DZ 10.437), Papanduva, 24. IX. 1967, [O.] Mielke leg.

Diagnosis ♀

The ♀ of *A. castrensis* is easily distinguished from any other ♀ of the species of *A. oberthurii* subgroup by the dark gray ground colour of the wings, by the preapical postmedial line on forewing, by the almost not distinguished ventral discal spot on the hindwing and finally, by the very dark gray dorsal thorax and abdomen.

Description

♀ (Figs. 5a, 5b): Wingspan 68 mm, forewing length 38 mm. Antennae (ca. 32 segments): rami dark straw yellow. Frons, labial palpi dark gray. Thorax dorsally and ventrally and legs dark grey. Forewing elongated, apex not pronounced, outer margin convex; dorsally ground colour dark gray speckled with light gray scales, postmedial lines lighter and preapical; discal spot darker (same color as thorax); ventrally entirely dark gray, submarginal band lighter and discal spot very dark gray white dotted. Hindwing with a dull yellow periocellar area; eyespot with black periocellar ring, iris dark brown, pupil large suffused with white scales; postmedial line black followed by a dull yellow and thin line, then a dark gray band; marginal band lighter proximately and dark gray distally. Abdomen dorsally and ventrally very dark gray, anal tuff speckled with dark yellow scales.

Immature stages: Unknown.

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Fig. 6: Geographical distribution of *Automeris jolantheae* and *A. castrensis* in Brazil.

Geographical distribution

A. castrensis is known only from the central-eastern Paraná state, including Palmeira Co. (Lemaire 1973) and central-northeastern Santa Catarina state (Fig. 6). Draudt (1929–1930) mentions this species in Minas Gerais state, but this could not be confirmed.

Ethology

A. castrensis can be considered as a rare species, due to the very few records in collections. The recent collecting suggests it has at least two broods along the year, one during the winter (July–September) and the other during the summer (January–February).

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